"North America has not run out of natural gas. What we are short of is any way to grow our energy supply. North America has no excess natural gas capacity. What we do have is extremely aggressive decline rates, making it harder each year to keep current production form falling. A massive number of gas-fired power plants have been ordered. But the gas to run them is simply not there."**

I urge the committee to keep in mind the advantages of distributed generation from renewable energy as we consider the state's future energy needs and sources.

*"The Oil Peak: a Turning Point", *Solar Today* Magazine, July/August 2001, p. 40, by C. J. Campbell, PhD., who has worked in the oil industry for more than 40 years. His is the author of two books and many papers on global oil-production trends.

**"Methane Madness, A Natural Gas Primer," *Solar Today* Magazine, July/August 2001, p. 36, by Randy Udall, Director of the Community Office for Resource Efficiency, and Steve Andrews, a Denver energy analyst. Based on the Natural Gas Resource Summary at www.altenergy.org/core.

An example of this is a new skyscraper in Times Square in NYC, which was the first of many high-rises that are now going up with solar panels built into the exterior skin of the building to reduce the demand for electricity on a daily basis. The solar panels were chosen because they also provide on-site electricity in case of a power outage. There is an elegant match between electricity demand and solar electric generation especially during long sunny summer days, when solar panels create power most efficiently at the same time as demand for air-conditioning puts an added strain on the power base.

Secondly, distributed generation make sense because it is more efficient to create the electricity where it is needed thereby saving the electricity lost when it is distributed over power lines. The cheapest power is the power you don't use - efficiency and conservation should always be the primary consideration when predicting future electricity needs.

And last of all, industrial and commercial interests are increasingly concerned about having an uninterruptible power supply. When industrial plants have to shut down their processes or businesses can't use their computers, the financial losses are sizeable. How much better to install an array of solar panels on the roof of an office building or a plant so that it can store electricity for use during a power outage.

Businesses could even roof over parking lots, such as the one installed by SMUD (Sacramento's Municipal Utility Department) to provide not only back-up power but also a large area that shades cars from the hot summer sun.

Many states are offering incentives for renewable energy now, sometimes allowing a deduction in the person's or the business' income tax. NH doesn't have an income tax but perhaps we could offer a deduction in a company's business tax to help them install on-site back-up power from. Homeowners also enjoy being able to rely on solar panels or a windmill so that they can have running water and lights during a power outage and also a source of electricity that is not susceptible to price fluctuations.

Of course, distributed generation could also be created by fossil fuel generators, but if we are looking ahead, we should be aware of the growing consensus that the world's supply of cheap oil will be diminishing greatly in the next 20 years*.

The supply of natural gas is not unlimited either. According to Matt Simmons, an investment banker to the energy services industry, who writes *World Oil* magazine's annual review of petroleum developments:

NHEP Electricity Workgroup 5/23/02

Comments by Carolyn Demorest, solar homeowner
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I built a solar house in 1980 and added a 2.4 kW array of solar panels after losing power for 6 days in the ice storm of 1998. My system has battery backup and net metering, and I took part in the workgroup at the PUC that helped develop NH's net metering standards. My house is on the National Tour of Solar Homes that is run every October by NESEA (the Northeast Sustainable Energy Association), and every year about 50 people come see the house and learn that solar generation works very well in our cold climate.

In planning for the next decade, I think it is important for New Hampshire to support the option of distributed generation of electricity.

Distributed generation is important to include in the mix when planning for NH's electricity future for three reasons:

1. It lowers the demand for more centralized power plants, which expose us to a greater threat from terrorist attack by being easier targets.

2. It lowers the demand for more generation because it does away with transmission lines that lose so much electricity in transit, and

3. It provides an Uninterruptible Power Supply for industries and businesses that are dependent on a continuous flow of electricity

First of all, September 11th has made NH residents aware of the vulnerability of our centralized power plants. A hit on our nuclear plant is unthinkable, but even an attack on one of the large fossil fuel plants would cause a tremendous loss of power for an extended time. If more homes, businesses and industries had back-up electric generation on site, they would be protected from a serious power outage at one of the centralized plants and fewer new plants would need to be built.